

What is claimed is:

1. A method for manufacturing a fiber reinforced epoxy resin product, comprising:

- 5 providing a mold for the product;
applying a release agent to inner surfaces of the mold;
providing at least one layer of glass fiber roving cloth in the mold;
casting an unhardened epoxy resin mixture in the mold;
10 pressing the epoxy resin mixture in the mold;
hardening the epoxy resin mixture in the mold under a temperature between about 20°C and about 80°C for more than 30 minutes;
releasing the hardened epoxy resin mixture from the mold;
15 and
curing the hardened epoxy resin mixture under a temperature between about 20°C and 35°C for about 24 hours to form the product.

20 2. The method of claim 1, wherein the epoxy resin mixture includes epoxy resin, silica and reinforcing fibrous material, the reinforcing fibrous material being a material selected from the group consisting of glass fiber, carbon fiber, aramid fiber and Kevlar fiber or a mixture thereof.

25 3. The method of claim 2, wherein the epoxy resin mixture

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further includes cement.

4. The method of claim 2, wherein the epoxy resin mixture further includes an inorganic material having refractory and self-extinguishing characteristics.

5. The method of claim 4, wherein the inorganic material is selected from the group consisting of Aluminum hydroxide, antimony oxide and hydro bromide.

6. The method of claim 1, the method further comprising a step of impregnating at least one layer of the glass fiber roving cloth with epoxy resin.

7. The method of claim 1, the method further comprising a step of removing air bubbles from the unhardened epoxy resin mixture.

8. The method of claim 7, wherein the removal of the air bubbles is performed by vibrating the mold.

9. A fiber reinforced epoxy resin product, comprising.
a hardened epoxy resin mixture including epoxy resin, silica and a fibrous material, the fibrous material being a material selected from the group consisting of glass fiber, carbon fiber, aramid fiber and Kevlar fiber or a mixture

thereof;

at least one layer of glass fiber roving cloth arranged parallel to each other in the hardened epoxy resin mixture.

5 10. A method for manufacturing a fiber reinforced epoxy resin product, comprising:

providing a mold for the product;

applying a release agent to inner surfaces of the mold;

providing at least one layer of glass fiber in the mold;

10 casting an unhardened epoxy resin mixture in the mold;

pressing the epoxy resin mixture in the mold;

hardening the epoxy resin mixture in the mold under a temperature between about 20°C and about 80°C for more than 30 minutes;

15 releasing the hardened epoxy resin mixture from the mold; and

curing the hardened epoxy resin mixture under a temperature between about 20°C and 35°C for about 24 hours to form the product.

20 11. A method for manufacturing a fiber reinforced epoxy resin panel, comprising:

providing a mold for the panel;

applying a release agent to inner surfaces of the mold;

25 providing at least three layers of glass fiber roving cloth in the mold;

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casting an unhardened epoxy resin mixture in the mold;
pressing the epoxy resin mixture in the mold;
hardening the epoxy resin mixture in the mold under a
temperature between about 60°C and about 80°C for more than
5 30 minutes;
releasing the hardened epoxy resin mixture from the mold;
and
curing the hardened epoxy resin mixture under a
temperature between about 25°C and 30°C and a humidity
10 between about 40% and about 50% for about three days to form
the panel.

12. The method of claim 11, wherein the epoxy resin mixture
includes epoxy resin, silica and reinforcing fibrous
15 material, the reinforcing fibrous material being a material
selected from the group consisting of glass fiber, carbon
fiber, aramid fiber and Kevlar fiber or a mixture thereof.

13. The method of claim 11, the method further comprising a
20 step of impregnating at least one layer of the glass fiber
roving cloth with epoxy resin.

14. A fiber reinforced epoxy resin panel, comprising.
a hardened epoxy resin mixture including epoxy resin,
25 silica and a fibrous material, the fibrous material being a
material selected from the group consisting of glass fiber,

carbon fiber, aramid fiber and Kevlar fiber or a mixture thereof;

at least three layer of glass fiber roving cloth arranged parallel to each other in the hardened epoxy resin mixture.

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15. A method for manufacturing a fiber reinforced epoxy resin product, comprising:

providing a mold for the product;

applying a release agent to inner surfaces of the mold;

10 providing at least three layers of glass fiber roving cloth in the mold;

casting an unhardened epoxy resin mixture in the mold;

pressing the epoxy resin mixture in the mold;

15 hardening the epoxy resin mixture in the mold under a temperature between about 60°C and about 80°C for about one to about three hours;

releasing the hardened epoxy resin mixture from the mold; and

20 curing the hardened epoxy resin mixture under a temperature between about 20°C and 35°C and a humidity between about 30% and about 60% for about 24 hours to form the product

25 16. A method of claim 15, the method further comprising a step of removing air bubbles from the unhardened epoxy resin mixture such that the amount of the air bubbles therein is

maintained below about 4%.

17. A method of claim 15, wherein the epoxy resin mixture includes epoxy resin, silica, rubbles and reinforcing
5 fibrous material, the reinforcing fibrous material being a material selected from the group consisting of glass fiber, carbon fiber, aramid fiber and Kevlar fiber or a mixture thereof.

10 18. A method of claim 17, wherein the epoxy resin mixture further includes an inorganic material having refractory and self-extinguishing characteristics.

19. A vehicle block structure having a predetermined height,
15 comprising:

a body including a hardened epoxy resin mixture and glass fiber roving clothes, the hardened epoxy resin mixture containing epoxy resin, silica, rubbles and reinforcing fibrous material;

20 a plurality of through holes arranged in a direction of elevation of the structure; and

a plurality of bolts having a length greater than the height of the structure and being arranged in the through hole to fix the structure to a desired place.

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20. A vehicle block structure of claim 19, the structure

further comprising an adhesive epoxy resin layer in order to
fix the structure to a desired place.

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